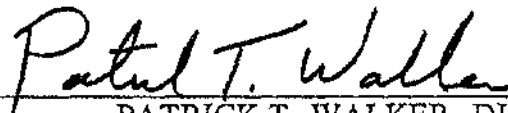


SOUTH CAROLINA
LAND RESOURCES COMMISSION
MINE OPERATING PERMIT

PART I:

Barite Hill Mine
Gwalia (USA), Ltd.

a corporation, has been granted a Mine Operating Permit, Mine Permit Number 0852 from the S. C. Land Resources Commission to operate the Barite Hill Mine in the County of McCormick. This permit grants Gwalia (USA), Ltd. the right to operate the Barite Hill in accordance with the S.C. Mining Act (S.C. Code Sections 48-20-10 et seq., 1976), and with Regulations 89-10 et seq. This permit document reflects submitted information from the application process for a Mine Operating Permit. The operator shall conduct this operation as generally represented in documents that have been submitted to support the issuance of this permit.



PATRICK T. WALKER, DIRECTOR
DIVISION OF MINING AND RECLAMATION

PERMIT NUMBER: 0852
ISSUED: August 14, 1990
EXPIRES: August 14, 1995.

LAST MODIFICATION: 94-1 (see Appendix A for synopsis of modifications)
EFFECTIVE DATE: May 23, 1994

The approved Reclamation Plan attached to this Mine Operating Permit is an integral part of this permit. Land Entry Agreements and Mine Maps as identified in Part II and Part IV respectively are also a part of this permit.

0852

Gwalia (USA) Ltd.

Home Office Address: Consolidated Nevada Goldfields Corporation
1801 Broadway, Suite 1620
Denver, CO 80202

Local Office Address: Gwalia (USA) Ltd.
c/o Nevada Goldfields, Inc.
P.O. Box 1530
McCormick, SC 29835

Address for Official Mail: Gwalia (USA) Ltd.
c/o Nevada Goldfields, Inc.
P.O. Box 1530
McCormick, SC 29835

**Company personnel and title to be the contact for official business and correspondence
(SCLRC should be notified immediately of any change in address, telephone or fax numbers.)**

Name -- Scott Wilkinson
Title -- General Manager

Telephone: 803-443-2222
Fax: 803-443-2187

LOCATION: The mine is located on the Plum Branch U.S.G.S. 7.5' Topographic Map. The approximate U.T.M. coordinates for the site are:

Easting: 379,848

Northing: 3,748,545

The operation is located approximately 2 miles southwest of McCormick, SC. Specifically, the mine site is east of secondary highway S-33-44 and west of secondary highway S-33-30. The site is 0.75 mile northwest of the intersection of S-33-44 and S-33-30.

Part II: MINE OPERATIONS

Gwalin (USA) Ltd., herein after also may be referred to as the operator, is permitted to mine **Gold Ore** to a maximum depth of approximately **140 feet (340 MSL)** in the Main Pit and **60 feet (440 MSL)** on tracts of land leased by the referenced operator. These tracts of land are identified in the submitted Land Entry Agreement (LEA). These LEAs will be recorded with the appropriate agency (ie. Register of Mesne Conveyance, Clerk of Court) in **McCormick County**.

Modification 94-1 -- The Rainsford Extension Pit will have a maximum depth of **35 feet (430 MSL)** on a tract of land leased by the operator. Lease recorded in **McCormick County** at time of modification approval.

Modification 94-2 -- The Red Hill East Pit will have a maximum depth of **60 feet (400 MSL)** on a tract of land leased by the operator. Lease recorded in **McCormick County** at time of modification approval.

The site has **0.0 acres** of previous mined land not permitted to be affected under this Mine Operating Permit. The Pre-Law Mined Land is identified as PLML on the submitted site map.

MINE/PITS CHARACTERIZATION: The operation shall operate two open pits to extract gold ore for processing. The Rainsford pit and the Main pit total approximately 30.9 acres in area. (Note acreage change with modification 94-1.)

Modification 94-1 -- Include the Rainsford Pit Extension, 2.7 acres in area, and Red Hill East Pit 4.6, acres in area, as additional areas disturbed by open pits. The two pits total 7.3 additional acres to be affected by open pit. The total to for pit is 38.2 acres. Only oxidized ore from the Rainsford Extension and Red Hill East pits will be mined.

PROCESSING PLANT LOCATED ON MINE SITE: Processing the gold ore will be accomplished by stacking the ore on impermeable pads and leaching the gold from the ore using a sodium or calcium cyanide (NaCN or CaCN) compound solution. The crushing, stacking and leaching the ore shall be conducted as described in sections 3.1, 3.3 and 3.4 of Water, Waste and Land, Inc's (WW&L) March, 1989 Report submitted for the Mine Operating Permit. The design of the asphalt leach pad and process ponds shall be as specified in WW&L's report in Chapter 6.

Waste Rock Dump

Waste rock that does not undergo cyanide leaching will be disposed in Waste Rock Dump A and Waste Rock Dump B. Waste rock will be disposed in the Rainsford Pit and in the Main Pit. Ore that has undergone cyanide leaching and has been rinsed that meet criteria as specified in the Solid Waste Permit and issued by the S.C. Department of Health and Environmental Control may be disposed of in a manner specified in the Solid Waste Permit.

Modification 91-1 -- Modification, with terms and conditions, to allow a second lift on the asphalt leach pad. This is viewed as a temporary measure until the operator has time to complete designs for relocating leach pads in the area of Waste Area C. Operation of the asphalt leach pad should be in accordance with the following submitted documents: 1) SEA, Inc. Consulting Engineers' Sept. 16, 1991 Report, Proj. No. 2201-01-1 and SRK's October 4, 1991 SRK Proj. No. 14103.

Modification 92-1 -- The change of Waste Area C (as identified in WW&L's report) to a permanent leach pad facility as described for design and operation in Chapters 5.0 & 6.0 in Westec's January 1992 Report submitted for Modification to the Mine Operating Permit. This modification is identified as 92-1. The asphalt pad will be phased out and reclaimed after the permanent leach pad is fully operational. The process solution ponds as designed and constructed in accordance with the WW&L report will remain operational throughout the remainder of the mine life. Additional process solution ponds and ancillary facilities will be constructed as designed in Westec's Report in Chapter 5.0.

A solid waste disposal site east and adjacent to the permanent leach pad facility was constructed as per the Solid Waste Permit for partially rinsed ore that could not meet drinking water standards. This site is identified as Waste Disposal Area C Landfill.

MINE DEWATERING: Dewatering of the pits will be accomplished by setting a pump in the lowest bench of the mine. The ground water or storm water accumulated will be pumped either to an NPDES outfall for discharge or to the process solution ponds and incorporated into their process solution system. Due to the location of the pits relative to the topography and distance to the nearest dwellings, dewatering of the pits are not anticipated to impact any domestic water supplies.

BLASTING: Blasting operations ARE permitted at this mine site. Blasting operations shall be conducted in compliance with regulations of the S.C. Fire Marshal in the Department of Labor, Licensing and Regulation and in accordance with R.89-15.

SIGNIFICANT CULTURAL OR HISTORICAL SITES: No significant cultural or historic sites were identified on this site.

VISUAL SCREEN: Refer to Section 2 in Part X: Additional Terms and Conditions of this permit.

NOISE MONITORING AND CONTROL: Refer to Section 2 in Part X: Additional Terms and Conditions of this permit.

OTHER STATE OR FEDERAL PERMITS:

- 1) NPDES permit for outfalls 001, 002 & 003
- 2) Air Quality Permit
- 3) Solid Waste Permit
- 4) Blasting permit from S.C. Fire Marshal in the Department of Labor, Licensing and Regulation

LAND ENTRY AGREEMENTS: The operator is required to furnish and maintain up-to-date Land Entry Agreements on all lands covered under this permit. Any change in ownership on any portion of land covered by this permit, the operator is responsible for furnishing the appropriate and completed Land Entry Agreement (Forms MR-600 or MR-700) to the Department within 30 days of the change of ownership.

Land Owners as Listed on Land Entry Agreements:

- 1) Gwalia (USA) LTD. MR-600
- 2) Bowater Incorporated - Tract no. CDW - 1282-1 MR-700
- 3) Rainsford and Sons MR-700
- 4) Virginia M. Dorn and Bettye W. Dorn MR-700
- 5) Virginia M. Dorn MR-700
- 6) Archie J. Lewis, Jr. MR-700

Total acres of the contiguous tracts of land for which the permit is granted:

OWNED 203.7 LEASED 591.5 TOTAL 795.2

Part III: PERMITTED LAND

This permit is valid to conduct mining operations within the permitted land as defined through the Land Entry Agreement submitted as part of the application. Permitted land as defined by Section 48-20-40(18) is "the affected land in addition to (a) land identified for future mining to become affected land; (b) and undisturbed or buffer area that is or may become adjacent to the affected land". Therefore, this permit grants Gwalia (USA), Ltd. the right to conduct active mining operations within the specified affected land, delineate land for future mine areas as future reserves and to establish undisturbed buffer zones to mitigate any adverse affects to the surrounding environment.

A. AFFECTED LAND: Under the current mine plan, the total area to be affected by Gwalia (USA) LTD., not including future reserves, is 135.5 acres of land. The operator is permitted to affect up to 135.5 acres of land at any point in time in accordance with the **Schedule for Conservation and Reclamation Practices** in the approved Reclamation Plan. Once affected land is released by the S.C. Land Resources Commission as reclaimed in accordance with R.89-33, that land is no longer considered affected and the mine operator carries no further reclamation liability. The affected acres are derived from the operator's response in the APPLICATION FOR A MINING PERMIT (Form MR-400) and subsequent modifications to the permitted area.

The amount of the reclamation bond is based on the **total affected area** of land to be reclaimed under the approved Reclamation Plan. The amount of the Reclamation Bond is set pursuant to Section 48-20-110. For mining operations permitted to affect less than 25 acres, the operator is required by Regulation 89-20 D. to modify their mining permit **prior to exceeding the total affected acres** for which the mine is permitted. Mining operations that are permitted to affect 25 acres or more shall not exceed the bonded acreage by more than ten percent (10%) without notifying the SCLRC in writing. The SCLRC will review bonding levels to determine if an increase in the reclamation bond is necessary.

B. FUTURE MINE RESERVES: 0.00 acres are identified as future mine reserves and are specified on the mine site map. Prior to the initiation of activity in future reserves, the operator shall submit detailed mine and reclamation plans to the SCLRC as specified in the **Schedule for Conservation and Reclamation Practices** in the approved Reclamation Plan. Failure to submit such plans to the SCLRC and commencement of mining activities would be a violation of this permit.

C. BUFFER AREAS: 659.7 acres are identified as buffer area, setbacks or areas that will not be disturbed beyond the pre-mine natural state. These buffer areas are identified on the mine site map. Acres designated as buffer areas are not bonded under the reclamation bond. Any disturbance of the buffer areas (i.e. removal of timber) requires this Mine Operating Permit to be modified **prior** to any such disturbance.

TOTAL PERMITTED AREA: 795.2 acres described in the property description of the submitted Land Entry Agreements listed in Part II of this permit.

Part IV: MAPS

MINE SITE MAPS

All **Mine Site maps** were prepared by Nevada Goldfields, Inc. with the exception of the Sediment Control Plans map which was prepared by Water Waste & Land, Inc. The following list are mine site maps that relate to this mine and are part of the operating permit.

MAP SUBJECT	DATE OF MAP	SCLRC MAP NO.
Site layout w/Rain. & R.H. Ext.	Oct. 15, 1993	MS-0852-1V3 Mod. 94-1
Site layout w/clear areas	Jan. 23, 1992	MS-0852-2V2 Mod. 92-1
Sediment Control Plans	Aug., 1989	MS-0852-3V1
Main Pit/ Final Configuration	Aug., 1993	MS-0852-4V2
Pres. Rainsford Pit w/West Ext.	Oct. 15, 1993	MS-0852-5V1 Mod. 94-1
Main Pit w/Red Hill East Pit	Jan. 12, 1994	MS-0852-6V1 Mod. 94-1

RECLAMATION/CLOSURE MAPS

All **Reclamation Maps** were prepared by Nevada Goldfields, Inc. with the exception of the Sediment Control Plans map which was prepared by Water Waste & Land, Inc. The following list are mine site maps that relate to this mine and are part of the operating permit.

MAP SUBJECT	DATE OF MAP	SCLRC MAP NO.
Site Closure Plan	Jan. 23, 1992	RM-0852-1V2 Mod. 92-1
Main Pit-Final Conf. w/backfill	Dec. 14, 1993	RM-0852-2V2
"A" Dump-Final Configuration	Aug. 19, 1993	RM-0852-3V1

The above identified maps illustrate specific components of the mine necessary to the SCLRC to determine key items used in regulating the mine. Design details, though not listed above, in the various reports are considered a part of the Mine Operating Permit.

Part V: RECLAMATION BOND

The Reclamation Bond is based upon to total affected acres. Pursuant to Section 48-20-70 and R.89-20, the reclamation bond for this mining permit is set at \$1,200,000. The reclamation bond shall remain in force and continuous throughout the life of the mining operation and shall only be released, partially or in full, back to the operator after the operator has completed reclamation in accordance with the approved Reclamation Plan and the minimum standards in R.89-33.

Section 48-20-110 allows for the operator to maintain one reclamation bond (blanket bond) to cover all the permitted mining operations in South Carolina. This permitted mine operation **IS NOT** covered by the operator's blanket bond.

Financial Institution posting Reclamation Bond:

Name: NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH

Type of bond posted for Reclamation Bond: SURETY

Effective Dates: July 20, 1990 (Original bond replaced 3/11/94)
March 4, 1994 (Replacement bond effective date)
May 4, 1994 (Surety rider increasing bond received)

Bond Number: 13-60-75

NOTE: This bond amount does not cover Waste Area B.

Changes in Bond

- 1) Modification 92-1 increased bond amount from \$190,000 to \$385,000. This increased was accomplished by the issuance if an ALL-PURPOSE SURETY CHANGE RIDER effective September 18, 1992.
- 2) Modification 94-1 replaced The North River Insurance Company (Bond No. 610 188960 6) surety bond with the current surety bond. Amount of the reclamation bond remained at \$385,000. Replacement bond accepted March 11, 1994 and the replaced bond marked satisfied and returned to operator March 11, 1994.
- 3) Reclamation bond increased from \$385,000 to \$1,200,000. Rider issued by NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH.

Part VI: PROTECTION OF NATURAL RESOURCES

1. Describe the area of and around the mine site. Specify topography, surface water systems, wildlife habitats, residential houses, commercial properties, recreational areas and/or public roads.

The site lies along a ridge above tributaries to Hawe Creek. The average elevation along the ridge is about 480 feet MSL, with elevation of about 510 feet MSL being the ridge high point. Elevations along the tributaries is approximately 400 feet MSL. The surrounding topography is comprised of rolling hills with comparable elevations.

The surface water in the permitted area consists of two unnamed tributaries that flow west into Hawe Creek. Hawe Creek is outside the permitted area, but flows into Clarks Hill Reservoir.

The site is relatively remote. There are no buildings, homes or commercial buildings within 0.50 mile of the affected area. Clarks Hill lake lies approximately 2 miles west of the permitted area.

2. Methods used to prevent physical hazards to persons and to any neighboring dwelling, house, school, church, hospital, commercial or industrial building or public road.

The site is removed from the general public which will limit potential hazards to the public. Area is surrounded by thick woodlands with a gate across the only access road.

3. Methods used to prevent an adverse effect on the purposes of a publicly owned park, forest or recreation area.

The closest publicly owned area will be Clarks Hill Lake. The primary methods to protect that resources will be: 1) compliance with the limitations established in the NPDES permit for waste water discharges; 2) adequate slope stability of the heaps during processing and in final reclamation; and proper sediment and erosion control measures during the early developmental phases of the operations.

4. Measures taken to insure against substantial deposits of sediment in stream beds or lakes.

Refer to Part X of this permit. Operator has an NPDES permit that limits and monitors for TSS. Additionally, refer to Water, Waste & Land map for Sediment Control Plans (SCLRC Map No. MS-0852-3v1) and letter from D.P. Engineering, Inc. dated April 20, 1990 for design information on the temporary sediment control ponds for the Main Pit and Rainsford Pit.

When and where appropriate, the operator shall construct or install appropriate temporary sediment control structures (ie. silt fences, hay bales, brush barriers, brush barriers wrapped in filter fabric) on an as needed basis.

Modification 94-1 -- Sediment control for Rainsford Pit Extension and Red Hill East will primarily consist: 1) brush barriers wrapped in filter fabric on the down gradient side of the pits; 2) divert or pump storm water runoff/groundwater seepage from the pits to NPDES discharge point; 3) natural vegetation cleared should be kept to a minimum with no spoil located on the down gradient side of the pit; and 4) stream crossing for the Red Hill East Pit shall be as designed with rip rap placed on the backfilled material around the culvert prevent erosion and scouring. No stormwater runoff from the haul road shall be allowed to runoff into the creek and all disturbed areas shall immediately be seeded with temporary vegetation.

5. Measures taken to insure against landslides or unstable mine walls.

Slope stability analysis was conducted for the final configuration for the waste area A, B, and C. Refer to section 7.4 and Appendix C in WW&L March, 1989 report.

Modification 92-1 -- Slope stability analysis was conducted for the ore heaps on the permanent pad. Refer to section 6.3 of Westec's January, 1992 report.

6. Measures taken to insure against acid water generation at the mine site that may result in pollution on adjacent property.

Refer to section 3 in Part X: Additional Terms and Conditions of this permit. Also refer to submitted closure plans. Operator will continue to test waste rock and ore for potential of acid generation and adjust closure plan accordingly.

7. Measures taken to minimize or eliminate fugitive dust emissions from the permitted area.

Air quality from the mining and ore processing operations will be regulated through the Air Quality Permit issued by the S.C. Department of Health and Environmental Control.

Part VII: STANDARD CONDITIONS OF MINE OPERATING PERMIT

1) SURVEY MONUMENTS: In accordance to R.89-13, the operator shall install and maintain the two required permanent survey monuments or control points within the permitted area as shown on the mine site map. At the discretion of the SCLRC, the operator may be required to mark the area to be affected with flagging or other appropriate measures.

2) RIGHT OF ENTRY: Pursuant to Section 48-20-130 and Regulation 89-24, the operator shall grant the Department and/or duly appointed representatives access to the permitted area for inspection to determine whether the operator has complied with the reclamation plan, the requirements of this chapter and rules and regulations promulgated hereunder and any terms and conditions of this permit.

3) RECORDS RETENTION: Any records the Department requires the operator to maintain through additional terms and conditions of this permit or by regulations shall be kept on site or at the office identified for receipt of official mail and open for inspection during normal business hours. The records shall be maintained for a minimum of three (3) years or as specified by the Department. The operator shall furnish copies of the records upon request of the SCLRC.

4) PERMIT MODIFICATIONS: Pursuant to Section 48-20-80, the operator may modify the permit and/or Reclamation Plan upon approval by the Department. Requests for permit and/or Reclamation Plan modifications may be made to the Department on Form MR-1300. The operator shall submit any requested supporting data for consideration during the Department's evaluation of the modification request. If a modification request is determined to be substantial by the SCLRC, the modification request will be public noticed pursuant to R.89-10 and a modification fee will be required as specified in R.89-34.

If the Department determines activities proposed under the Reclamation Plan and other terms and conditions of the permit are failing to achieve the purpose and requirements of the S.C. Mining Act and Regulations promulgated by the S.C. Mining Council, the Department shall notify the operator of its intentions to modify the permit and/or Reclamation Plan pursuant to Section 48-20-150.

5) TRANSFER OF PERMIT: Pursuant to section 48-20-70, this permit may be transferred to another responsible party. The transfer of the permit must be conducted in accordance with R.89-23. The transferrer of the permit will remain liable for all reclamation obligations until all required documents, plans and replacement reclamation bond have been submitted and approved by the SCLRC. The transfer will be considered complete when all parties have received notification by certified letters of the approval of the transfer by the SCLRC.

6) LENGTH OF MINE OPERATING PERMIT: In accordance with Section 48-20-60 this Mine Operating Permit will remain valid unless this permit terminates as set forth in R.89-27 or is revoked in accordance with Section 48-20-160 and R.89-28. The proposed anticipated mining completion date shown on the **Schedule for Conservation and Reclamation Practices** in the Reclamation Plan is the termination date for the operating permit. The Mine Operating Permit termination date may be changed through a simple modification to this mining permit if active mining operations extend beyond the proposed termination date. The termination date of this permit may not be extended for the sole purpose of postponing reclamation of the mine site. Reclamation activities in the absence of active mining may be required pursuant to R.89-27.

Pursuant to R.89-8(B), the operator shall conduct reclamation simultaneously with mining whenever feasible. Reclamation shall be initiated at the earliest practicable time, but no later than within 180 days following termination of mining of any segment of the mine and shall be completed within two years after completion or termination of mining on any segment of the mine.

Part VIII: ENFORCEMENT ACTIONS

Pursuant to Section 48-20-30 of the S.C. Mining Act, "The Land Resources Commission has ultimate authority, subject to the appeal provisions of this chapter, over all mining, as defined in this chapter, and the provisions of the chapter regulating and controlling such activity." This allows the SCLRC to assist, cooperate with or supersede other State agencies in taking enforcement action on violations of the State Regulations or violations of the S.C. Mining Act to ensure the purposes of this Act are enforced.

COMPLIANCE: Compliance with the Mine Operating Permit requires the operator to conduct the mining operation in the general manner as described in the Application for a Mining Permit. Variance from what has been characterized in the Application for a Mining Permit without first modifying this Mine Operating Permit may subject the operator to enforcement penalties.

The operator shall comply at all times with all conditions of this permit. Non-compliance with this mining permit and regulations promulgated by the S.C. Mining Council could lead to permit revocation and bond forfeiture pursuant to Sections 48-20-160 and 48-20-170.

An operator or official representative of the mine operator who willfully violates the provisions of the S.C. Mining Act, rules and regulations or willfully misrepresents any fact in any action taken pursuant to this chapter or willfully gives false information in any application or report required by this chapter shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined not less than one hundred dollars nor more than one thousand dollars for each offense. Each day of continued violation after written notification shall be considered a separate offense.

The operator is responsible for all mining activity on the permitted mine site. The Department shall not accept as a defense from the operator that he was not responsible for any unpermitted actions within the permitted area. Illegal acts within the mining permit are also subject to enforcement actions from other State and Federal agencies. Depending upon the nature of such illegal acts, the S.C. Land Resources Commission may cooperate with other agencies in the investigation and prosecution of such acts.

Part IX: REPORTS

1) ANNUAL RECLAMATION REPORTS: The operator shall comply with Section 48-20-120 and Regulation 89-21 and submit an Annual Reclamation Report on Form MR-1100 as supplied by the Department. The form for the report will be sent by regular mail to the operator to the mailing address shown on the previous year's Annual Reclamation Report. The operator should receive the report form from the SCLRC by July 1 of each year; however, the operator is ultimately responsible for obtaining the Annual Reclamation Report form and is not excused from penalty fees for failure to submit the report on time.

The **Annual Operating Fee** is a part of the Annual Reclamation Report. Failure to submit a complete Annual Reclamation Report (i.e. information and fee) in accordance with Section 48-20-120 and R.89-34 will result in a late penalty payment. The Annual Reclamation Report and Annual Operating Fee is required if there is any permitted land not fully reclaimed and released by the SCLRC by June 30 of each year.

2) SPECIAL REPORTS: This permit does not preclude the SCLRC from requesting information, data or explanations from the official representative of the operation as to conditions relating to the permitted mine site. Such request from the SCLRC shall be made in writing to the operator with appropriate time frame stated for the submittal of the requested information to the office of SCLRC.

Part X: ADDITIONAL TERMS AND CONDITIONS R.89-14

1) SEDIMENT AND EROSION CONTROL

- 1 A Gwalia shall construct the sediment basins for the Main Pit, Rainsford Pit and the temporary sediment control dams in Waste Area A as designed in the sediment and erosion control plan. Only necessary vegetation should be removed to construct these facilities and perimeter sediment control devices (brush barriers wrapped with filter fabric). All interim sediment control as outlined in the application, specifically the letter from D. P. Engineering, Inc. dated April 20, 1990 RE: SEDIMENT CONTROL PLANS FOR BARITE HILL PROJECT - McCORMICK COUNTY, SOUTH CAROLINA and accompanying map 190-11, shall be installed prior to the clearing and commencement of construction of mine and facilities.
- 1 B All runoff during construction of mine facilities shall be discharged only through sediment control structures as shown in the sediment and erosion control plan dated April 20, 1990. All runoff from the plant facilities (not including any treated process solutions) shall be discharged through Waste Area A.
- 1 C The access road north of the leach pad and ore storage area shall be constructed to final operational elevation prior to land clearing of the leach pad and ore storage areas. This access road will control storm water runoff to the north and route such runoff to an approved NPDES outlet discharge point.
- 1 D The temporary sediment control ponds located at the Main Pit and Rainsford Pit shall be marked indicating when 18 inches (1.5 feet) has accumulated in the bottom of the basin. When the ponds' capacity has diminished by the specified amount due to sediment, Gwalia shall remove the sediment to restore full capacity. The removed sediment accumulations shall be placed back in the pit, on topsoil stockpile or waste area.
- 1 E Gwalia shall maintain internal drainage control within the Main Pit to insure that the drainage area (approximately 8 acres per basin) for each basin design is not exceeded.
- 1 F Removal of the storm water in the basins shall begin immediately (when feasible to start the pumps) and proceed continuously until the basins are emptied to maintain full capacity for the following storm events.
- 1 G The rated pump capacity to be used for removing storm water from the settling ponds at the Main Pit and Rainsford Pit shall be adequately sized to insure at least 100 gpm of water is discharged by the pumps.
- 1 H All water discharged from the sediment ponds will be routed through the approved NPDES discharge outlet or be used as make-up water to leach the ore. If there is a discharge at the base of waste area B prior to the construction of the infiltration basin, Gwalia shall sample each discharge event and perform analysis in accordance to the approved NPDES permit. If the discharge water fails to meet the NPDES permit limits, future discharges through this outlet shall be suspended until the construction of the filtration basin is completed and approved.
- 1 I All runoff from haul/access roads shall be routed through an approved NPDES discharge outlet.
- 1 J Gwalia shall install and maintain a staff gauge in the infiltration basins in Waste areas A & B. Actual field permeability of the filtration beds shall be established upon completion of construction and this information submitted along with draw down curves for the 10 year storm, 25 year storm, 50 year storm and 100 year storm. To insure continuing adequate permeability of the filtration beds with use, Gwalia shall inspect the infiltration basin(s) daily after significant rainfalls that result in runoff that accumulates water in the basin(s). Gwalia shall conduct daily inspections of the basins whenever the basin(s) have standing water from a previous significant rainfall. A log shall be maintained documenting all inspections of the basin(s), the height of water, daily calculated volume of water, daily calculated rate of infiltration through the bed and daily measured rate of flow from the toe of the filtration basin. Gwalia shall propose a "trigger point" as to when the infiltration bed's (s) performance is not acceptable and a proposal for reestablishing the basin's (s) operational permeability. The proposed "trigger point" shall be submitted to the SCLRC for approval within ten (10) days after the completion of a filtration basin (s) construction.

Gwalia may request to modify the condition for daily inspection of the infiltration basin and the necessity to maintain a daily log if sufficient information is submitted to prove that less frequent inspections will be equally protective. If the DHEC Solid Waste Permit design criteria are not necessary for waste area C and Gwalia utilizes an infiltration bed design as in waste areas A & B, all the above requirements in this paragraph shall apply to waste area C.

- 1 K Diversion channels or portions of diversion channels with a flow velocity of greater than 2.5 feet per second shall be lined to prevent erosion of the channel. The 2.5 feet per second channel flow velocities design should be based on the peak discharge from a 25 year - 24 hour storm. The lining material selected to prevent erosion shall be based on accepted engineering principals.
- 1 L Sediment basins construction shall be certified by a South Carolina registered professional engineer.
- 2) NOISE AND VISUAL SCREENS
- 2 A As shown in map 190-11 dated April 20, 1990, Gwalia shall only clear approximately 25 feet past the area where mine facilities, pit and waste rock dumps will be located. Where feasible and necessary Gwalia shall plant appropriate vegetation to enhance noise attenuation effectiveness and visual screening of the site.
- 3) ACID WATER GENERATION
- 3 A Gwalia shall continue to conduct a sampling and testing program to identify any material that has an acid producing potential. This sampling and testing program shall continue to establish the acidification-neutralizing potential of various rock types found in the planned pit areas. Continued emphasis shall be placed on developing indicators that can be incorporated into the mining plan to determine rock types that have potential for acidification.
- 3 B A detailed plan shall be submitted to SCLRC for approval specifying the above referenced testing and sampling program. This plan shall include a method for disposing of waste rock types identified as having potential for producing low pH water runoff. A log indicating area and depth, with maps, shall be maintained showing where any potential acid producing waste rock is disposed and the manner in which it was disposed. This plan shall be submitted to SCLRC within 90 days after issuance of the mining permit.
- 3 C Methods used to mitigate acid formation in waste rock shall be described in detail in the plan.
- 4) TEMPORARY CLOSURE REQUIREMENTS
- 4 A In the event that Gwalia should decide to temporarily cease mining activities at the Barite Hill Mine, Gwalia shall maintain security, continue to provide for public safety, continue to conduct ongoing monitoring requirements and shall accelerate the schedule for the stabilization and revegetation of all exposed slopes and waste rock dumps. A temporary closure plan shall be submitted to SCLRC and approved prior to temporary cessation of operations.
- 5) PITS
- 5 A The Rainsford Pit may be backfilled with waste rock or adequately rinsed leached ore from the asphalt pad. Gwalia may backfill rinsed ore provided testing indicates effluent from the material meets groundwater standards. Backfilling shall be conducted under dry conditions and not in standing water.
- 5 B The highwalls for the Main Pit shall be reclaimed to remain stable for an indefinite period of time. A stability analysis shall be performed to indicate that the highwalls will have a factor of safety of 1.50 or greater. The stability analysis shall be conducted and submitted to the SCLRC at least 6 months prior to close out of the Main Pit.

6) PERMANENT ASPHALT PAD

6 A The operator shall inspect the following on a routine basis: Leach cells, solution channels, solution sumps and piping (barren and pregnant solution) to the plant. The inspection should be complete and thorough to detect any signs of damage or degradation of the asphalt, pad base integrity and any deterioration of materials.

6 B Every cell shall have an inspection after unloading of the rinsed ore and before reloading. The monthly report submitted to SCLRC for the cell inspections shall include, as a minimum, the following information.

1. Cells Inspected
2. Inspection Dates
3. Inspector's Name
4. Date Cell(s) unloading complete
5. Date cell(s) reloaded
6. Cell(s) that are planned for unloading and approximate date when cell(s) will be exposed during the coming calendar month.
7. Describe any changes in cell since previous inspection on that cell.
8. Describe any discernible damage and anticipated repairs. Categorize damage as either (A) machine induced, (B) physical damage through settling, thermal, etc., (C) chemical stripping of asphalt or (D) other.
9. Location of damage and repairs on map for the asphalt pad.
10. Description of actual repairs performed. This could be a follow up report to the inspection report.
11. Other pertinent information as determined to be necessary.

6 C If there is damage to the cell that may jeopardize the integrity of the asphalt liner, (ie, rubber membrane exposed, cracking of the asphalt that may reach the rubber membrane) the operator shall notify, written or verbal, SCLRC at least 10 working days prior to the scheduled reloading of that cell.

6 D Inspections on solution channels, solution sumps and piping shall take place after the 20th of each month and before the 1st of the next month. The report submitted to SCLRC shall include, as a minimum, the following information.

1. Solution handling facility with pad inspected.
2. Inspection Date
3. Inspector's Name
4. Describe any changes in facility since previous inspection.
5. Describe any discernible damage and anticipated repairs. Categorize damage as either (A) machine induced, (B) physical damage through settling, thermal, etc., (C) chemical stripping of asphalt or (D) other.
6. Location of damage and repairs on map of asphalt pad and plant area.
7. Description of actual repairs performed. This could be a follow up report to the inspection report.
8. Other pertinent information as determined to be necessary.

6 E Operator shall maintain complete and accurate records of all work performed on the leach pad. A map of sufficient scale showing the plant and pad area shall be part of the records so that the location of any damage and repair can be visually recorded and located.

6 F The monthly reports on the inspections shall be submitted to SCLRC post marked no later than the 5th of the following month. All reports must be signed by the Mine Manager of the Barite Hill Mine certifying that the information contained in the report is complete and accurate.

7) LEAK DETECTION

7 A Operator shall pump the leak detection sumps daily to remove and sample any accumulated liquid. The daily pumping shall continue at a minimum through one complete leach, rinse and off loading cycle for each of the 6 cells of asphalt leach pad.

- 7 B Any liquid recovered shall be tested for free cyanide content, Ph and gold values to aid in ascertaining if there is a leak and in locating the leak. A minimum of one sample of liquid per week shall be submitted to a SCDHEC certified laboratory for analysis for total cyanide and free cyanide. All diligent efforts shall be made by operator to locate and repair the source of any leaks if cyanide is detected in the leak detection system.
- 7 C Operator shall maintain a log of times and dates that the leak detection sumps are pumped, quantities of liquid removed from the sumps and chemicals in liquid (as testing requirement dictate in preceding paragraph). If free cyanide is detected in any recovered liquid from leak detection sumps, SCLRC shall be notified within 24 hours by telephone followed up with written report within 5 working days. Following detection of cyanide solution, daily sampling will continue and if necessary, more frequently. The operator shall submit weekly reports to SCLRC detailing the information on the continued sampling and analysis and activities taken to locate and correct the leak. These activities will continue until such time the free cyanide concentration drops below 10 ppm for five consecutive days and this analysis is confirmed by an outside SCDHEC certified laboratory.
- 8) HEAP STABILITY
- 8 A The stacked ore height on the leach pad shall not exceed 35 feet unless a written request and supporting documentation on heap stability is presented to the SCLRC. The toe of the heap shall be no less than 20 feet from the outside asphalt berm or the outer asphalt channel (heap setback).
- 8 B Any spillage of leached ore or cyanide solution outside the asphalt lined area shall be immediately removed from the unlined area and disposed of properly. Any soils contaminated with cyanide shall be immediately detoxified or properly disposed. SCLRC shall be notified within 24 hours by telephone and follow up with a written report within 5 working days.
- 8 C Any spillage of material into solution channels shall be removed. The capacity of the leach pad solution channels shall be maintained so as to handle the design peak flow rates of the 100 year - 24 hour storm event.
- 8 D The operator shall conduct inspections of the heaps, solution lines and sprinklers and solution channels during the night time hours. Gwalia shall install an automatic system on the barren pumps to turn the barren pumps off in the event of a rupture or break in the barren solution lines.
- 9) SOLID WASTE
- 9 A Gwalia shall build the waste piles in a manner to insure adequate field compaction of the leached/rinsed ore in waste area C. If the leached ore cannot be rinsed to meet NPDES limitations, the waste pile in area C shall be constructed in lifts no greater than 10 feet thick and compacted by vehicular traffic. Permeability and compaction test shall be conducted on the waste material so that these parameters are quantified. This information shall be submitted to the SCLRC quarterly. Gwalia shall submit a sampling plan for approval to the SCLRC and must be approved before mining starts at the mine.
- 9 B If all leached ore is adequately rinsed and can meet NPDES limits and Gwalia does not need to implement the Solid Waste Permit issued by the S.C. Department of Health and Environmental Control, the lift thicknesses may exceed ten (10) with the exception of the top and final lift of rinsed ore. The final lift of rinsed ore shall be no thicker than 10 feet and compacted. The final lift is defined as the upper 10 feet that covers the entire rinsed ore waste pile.
- 9 C Gwalia shall obtain a permit from the SCLRC's Dam and Reservoirs Safety Division for the construction of the dam for the leachate collection pond in Waste Area C.
- 9 D Waste Areas A, B and C shall be constructed to maintain a minimum factor of safety of 1.50. Gwalia shall conducted a review of the waste rock disposal areas to further evaluate the factors of safety and submit a report to the SCLRC for review within 6 months following start-up.

10) WETLAND RESTORATION

- 10 A The operator shall submit a detailed reclamation plan for the development of wetlands on the waste rock piles in accordance with the U.S. Army Corps of Engineers 404 permit. Gwalia shall also review the feasibility of using the pit floor of the Main Pit for wetland development. These plans shall be submitted to the SCLRC within one year after issuance of the mining permit.

11) WILDLIFE

- 11 A Gwalia shall install a net over the process solution ponds to prevent bird mortality. The rinse pond will not need a net unless the free cyanide level exceeds 30 ppm; thereby, netting would be required. The net specification and installation procedures for the net shall be submitted to the SCLRC within 30 of issuance of the permit for approval.
- 11 B Gwalia shall report mortality of significant terrestrial wildlife and all avian wildlife to the SCLRC within 24 hours by telephone to be followed by a written report within five (5) working days. Gwalia shall compensate the S.C. Wildlife and Marine Resources Department (SCW&MRD) for the loss of significant wildlife as determined by the SCW&MRD.
- 11 C Stream sampling to determine the impact on fisheries shall be conducted on a yearly basis. Sampling stations 1 & 2 shall be as located in the Dames and Moore Report and a third station added on the creek bordering the southern perimeter of the operation. Sampling practices shall be in accordance with SC Wildlife and Marine Resources Department as outlined in their November 9, 1989 letter (attached). Results should be submitted to SC Land Resources Commission within 30 days after sampling completed.

12) CLOSURE

- 12 A Gwalia shall submit a detailed closure plan that will describe how the pit, waste rock areas, rinsed ore, plant/processing area will be closed to prevent a gradual or sudden release of contaminants that would adversely impact the surrounding environment. The plan shall incorporate information generated during the operation of the mine and shall take into account the Reclamation Plan, acid generation prediction data, wetland mitigation plans, geology and site hydrology (surface and subsurface), solid waste disposal and post closure monitoring. The plan shall be submitted to SCLRC for approval within 12 months after the mining permit is issued and updated as operational plans change.

13) GENERAL

- 13 A Gwalia shall notify SCLRC of the initial production blast 48 hours in advance by telephone.
- 13 B Gwalia shall submit a complete set of plans and working specifications that will go to all contractors and subcontractors working on the Barite Hill Mine. All modifications to the plans and specifications after the initial submittal shall also be sent to the SCLRC.
- 13 C Gwalia shall provide all contractors and subcontractors on the Barite Hill Mine a copy of these Terms and Conditions to prevent any misunderstandings as to SCLRC's requirements.
- 13 D Gwalia shall hire an independent professional engineer registered in South Carolina to oversee all on site construction and to provide written certification that the facilities were constructed as specified in the plans and in accordance with all permits. As builts shall be submitted within 60 days after facilities have been certified as complete.

TERMS AND CONDITIONS FOR MODIFICATION 91-1

- 1) Total height of the stacked ore (first and second lifts) shall not exceed 60 feet at time of stacking the second lift.
- 2) A minimum 20 foot setback shall be maintained between the toe of the second lift to the upper outside crest of the first lift. Based on the slope stability report, the factor of safety are sufficient with this 20 foot setback.
- 3) Traffic shall be limited to the extent possible on the top of the first lift to minimize abrasion of the agglomerated ore.
- 4) Once leaching of the ore is completed on any section of the second lift, Gwalia shall immediately begin and actively rinse both lifts until leachate and solids meet acceptable standards pursuant the Solid Waste Permit and/or NPDES permit.

TERMS AND CONDITIONS FOR MODIFICATION 92-1

WATER BALANCE

- 1) Gwalia shall develop a contingency plan to cope with unforeseen inadequate volume in the process solution ponds. The contingency plan shall at a minimum provide for the following:
 - Additional pond location(s) and design(s).
 - State construction time and steps to be taken to minimize construction delays (i.e. storage of necessary materials to prevent delivery delays).
 - Other steps that could be taken to mitigate excess or potential for excess solution in the process ponds.

The contingency plan shall be submitted within 90 days to SCLRC and SCDHEC after the approval of this modification. The SCLRC shall review the plan in a timely manner to determine its' adequacy. The goal is to have the approved plan in place so that Gwalia can implement the plan in a minimum of time if the need arises. The contingency plan may be updated as additional information is collected and experience gained during operations.

- 2) If the volume of process solution reaches or exceeds 7.5 million gallons in existing ponds or if it becomes apparent that the volume of process solution will exceed 7.5 million gallons based on experience and/or water balance projections, Gwalia shall notify the SCLRC within 5 working days to determine if the contingency plan should be implemented.
- 3) Gwalia shall establish gaging stations in each pond to accurately determine its volume. On a daily basis, individual pond volumes shall be determined and total solution volume in the process ponds calculated. The pond volumes shall be noted in a log and kept on-site for inspection.
- 4) Gwalia shall update the time schedule for constructing, leaching and rinsing the permanent leach pad phases and the decommissioning of the asphalt pad and waste area C landfill. The new schedule shall be submitted at least 15 days prior to stacking on phase one of the permanent leach pad.
- 5) The SCLRC shall be notified if the rinsing and projected decommissioning of the asphalt reusable leach pad, permanent leach pad phases and waste area C landfill falls 6 months or appears that decommissioning will fall 6 months behind schedule. At that time, the water balance will be reviewed to determine if the contingency plan should be implemented or if the next phase of the leach pad construction and stacking of ore should be postponed if it is determined that the added watershed would be detrimental to the water balance.

PAD

- 6) Gwalia shall establish a test area of PVC and UV-PVC liner material so that the liner material may be exposed to sunlight throughout the life of the mine. Samples from the exposed material may be removed periodically for testing to determine rate of deterioration under exposure to sunlight.
- 7) Operator shall establish a minimum 30 foot wide road including any diversion ditches around the outside berm of the permanent pad.

RINSING

- 8) Operator shall establish a grid for the purposes of sampling the rinse ore solids so that at least one solid sample will represent approximately 1,800 metric tons (2,000 short tons). Operator shall submit a plan for each phase showing the overlying grid for sampling points, approximate thickness of the heap at each sample point, number of solid samples to be taken, and total tons of ore in each phase. The sampling plan shall be submitted 30 days prior to beginning sampling of each phase. Analytical procedures for the solids should conform to SCDHEC construction permit number 17,334-IW, special condition 12.

- 9) Based on the results of the sampling and analysis of the solid samples, a request may be submitted for a reduction or modification in sampling or analysis. Similarly, if the results indicate the need, additional sampling may be required to demonstrate adequate rinsing.

RECLAMATION BOND

- 10) Reclamation bond is set at \$385,000. Operator shall provide additional information on rinsing and closure cost before ore is stacked on phase 3. The reclamation bond may be adjusted at that time depending upon amount of reclamation completed, efficiency of rinsing the leached ore, and documented rinsing cost.

MODIFICATIONS TO THE MINING PERMIT

<u>MODIFICATION APPROVAL DATE</u>	<u>DESCRIPTION OF MODIFICATION</u>
November 5, 1991	Modification 91-1 Approval with terms and conditions for a second lift to be stacked onto the asphalt leach pad on a temporary basis. Gwalia plans to construct a dedicated leach pad to replace the asphalt pad and need the production space until the new pad is designed, approved and built. No bond increase.
July 27, 1992	Modification 92-1 Approved with terms and conditions the modification to construct permanent leach pad in Waste Area C. Increased the bond from \$190,000 to \$385,000.
May 23, 1994	Modification 94-1 Approved modification to add the Rainsford Pit Extension (2.7 acres), Red Hill East Pit (4.6 acres) and storage pond to the affected area. Affected Area increased a total of 7.3 acres. <u>Total affected area is 135.5 acres.</u>